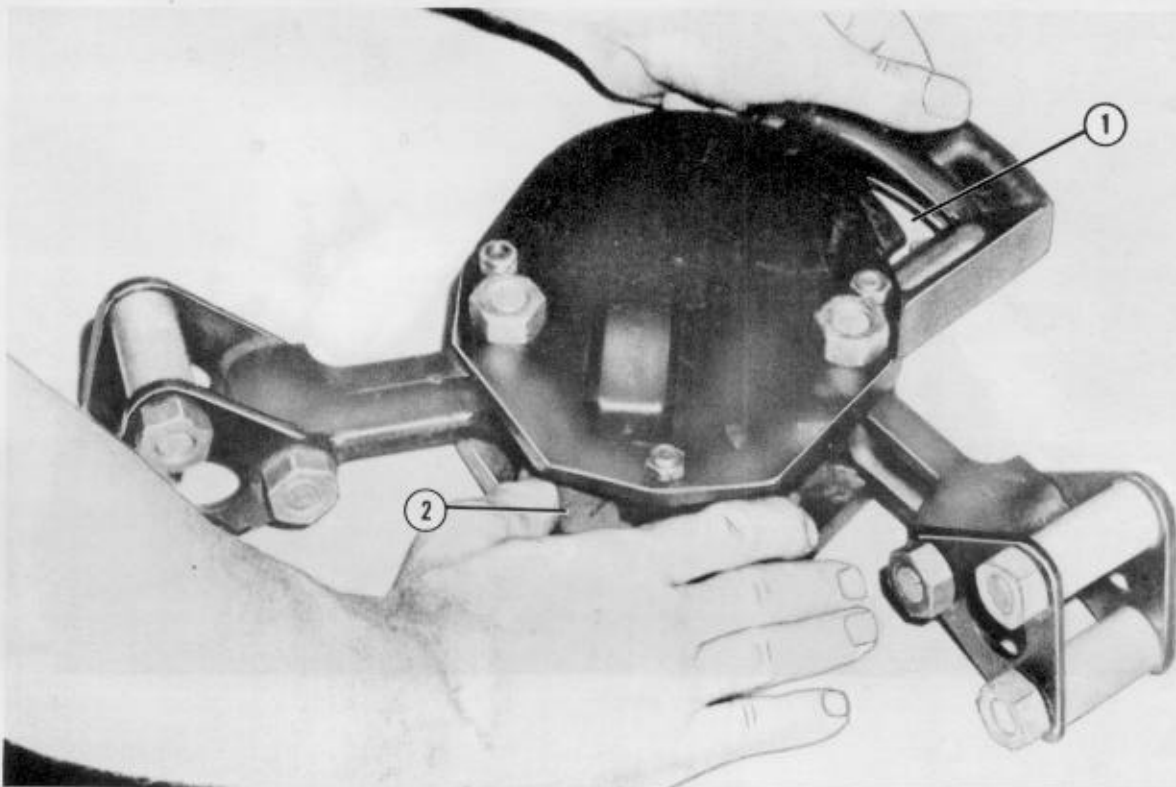


## Section VI RELEASE ASSEMBLIES

### 3-26. M-1 Cargo Parachute Release

Test, attach, and safety the M-1 cargo parachute release as follows.

**a. Testing Timer.** Before each use, seat, arm, and test the delay timer as shown in Figures 3-106 through 3-108.



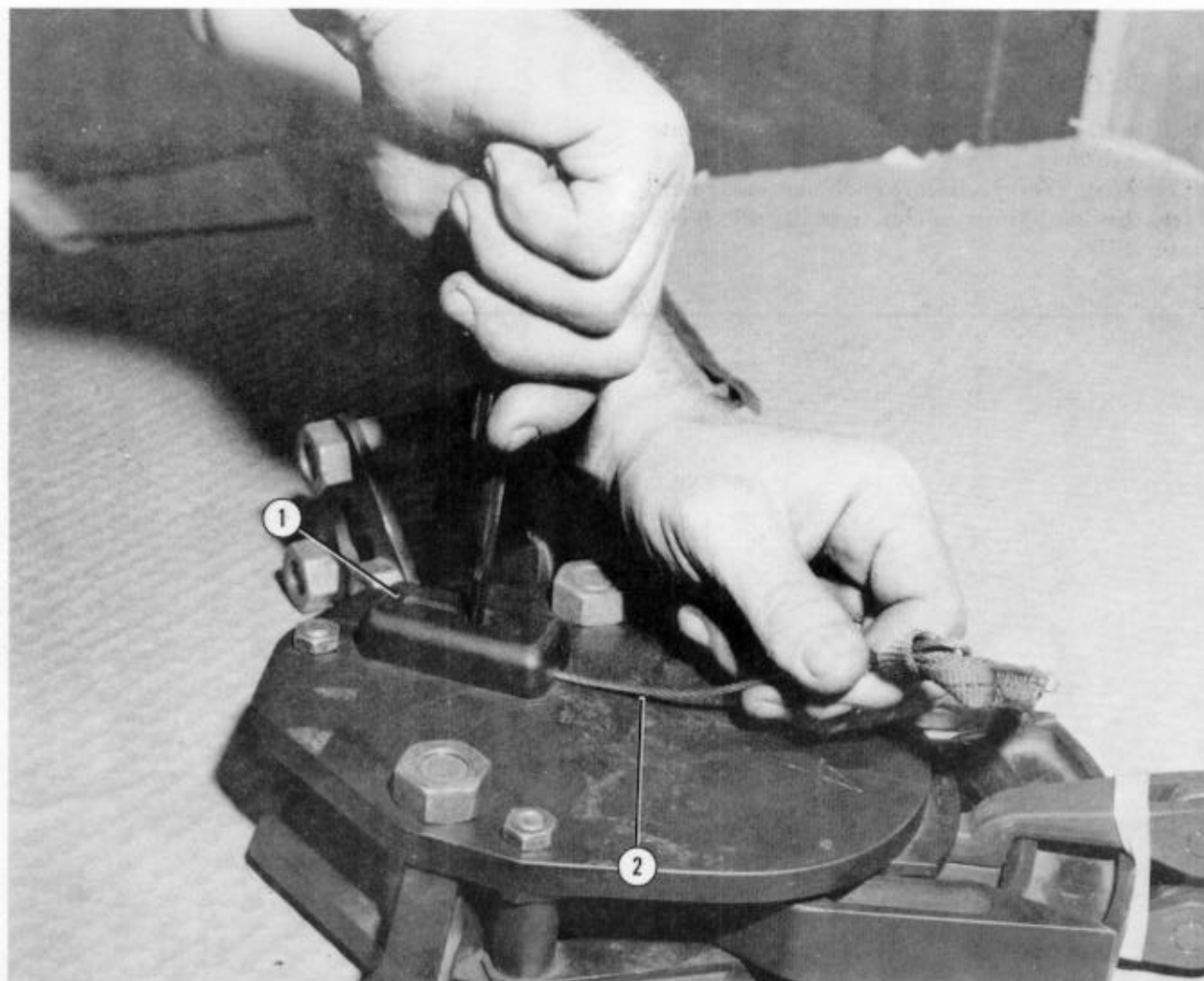
- ① Align and center the upper suspension link with the release side plates.

#### CAUTION

If the timer is not correctly seated in the upper position in the release when it is armed, the keys will not fit into the slots in the back side plate and could damage the timer.

- ② Reach between the side plates, and slide the timer up until the toggles fit in the toggle lock slides. You should be able to see the winding shaft of the timer through the guide block winder access hole.

*Figure 3-106. Delay release timer seated*



- ① Put the tip of a flat-tip screwdriver through the guide block winder access hole and into the slot in the timer winding shaft. Gently turn the shaft one-quarter turn to the right and stop, holding the shaft with the screwdriver.

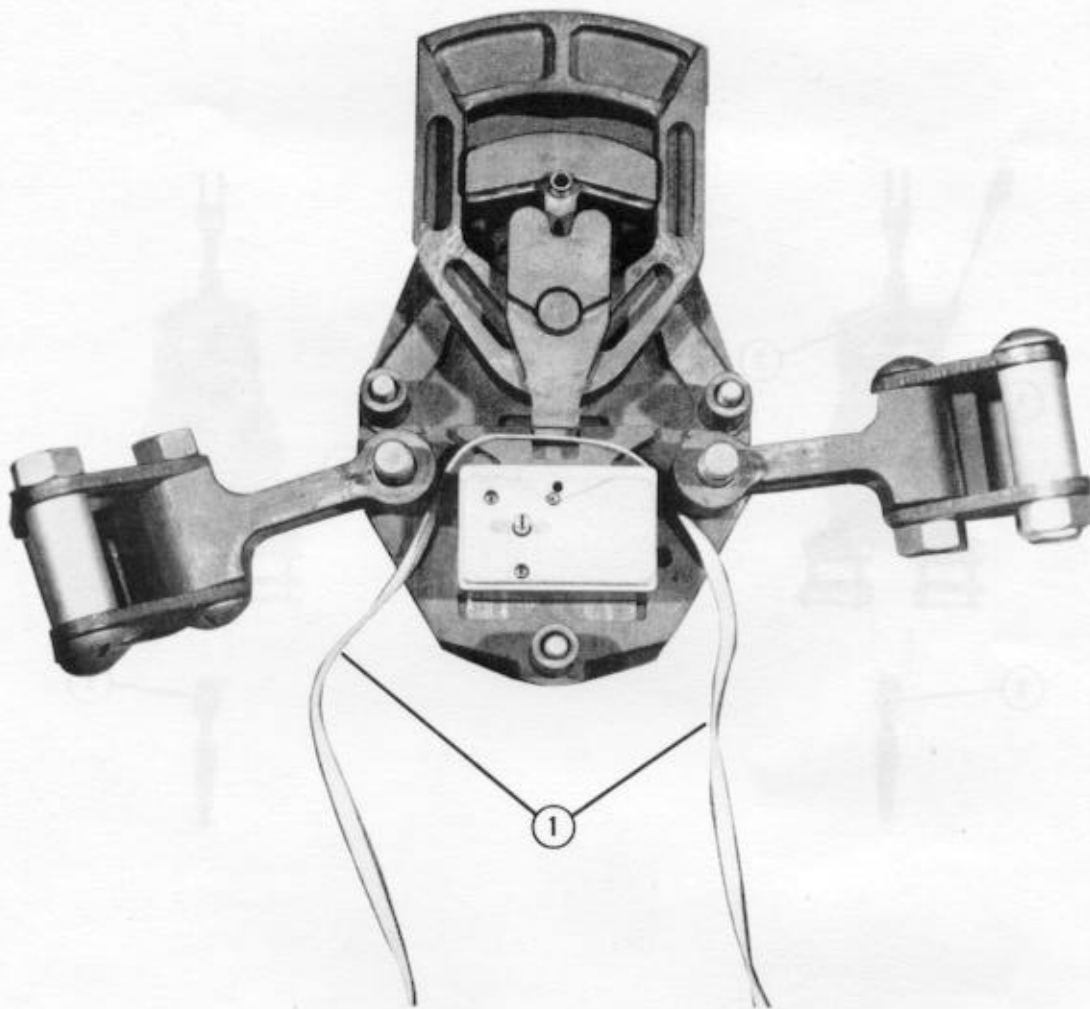
**Note:** If the winding shaft is hard to turn, hold the shaft with the screwdriver and move the timer around until the keys align with the slots in the back plate.

- ② Hold the shaft, and push the arming wire down through the hole in the guide block and the hole in the winding shaft.

**Note:** When the timer is correctly armed, about 1/2 inch of the arming wire can be seen through the slot below the guide block winder access hole.

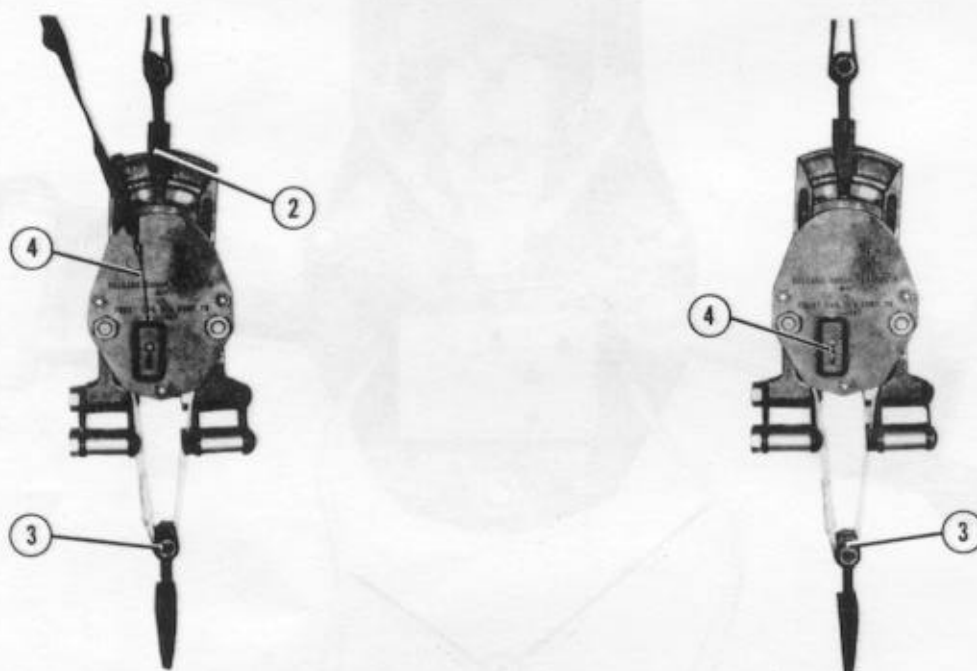
Figure 3-107. Timer armed

**Note:** A delay release timer will be tested before each use. Timers will be seated and armed within a serviceable release when tested.



- ① Pass a length of type I, 1/4-inch cotton webbing up between the release side plates, over and around the center of the timer, and back down between the side plates. The face side plate and a toggle lock slide have been removed to show how the webbing passes around the timer. You may use a length of wire to help you pass the webbing around the timer.

*Figure 3-108. Timer tested*



- ② Hang the release in a straight, level position.
- ③ Tie a 10-ounce weight, such as a platform clevis with bolt, to the type I, 1/4-inch cotton webbing.
- ④ Pull the arming wire from the timer. Count the seconds from the time the wire is pulled until the timer falls within the release.

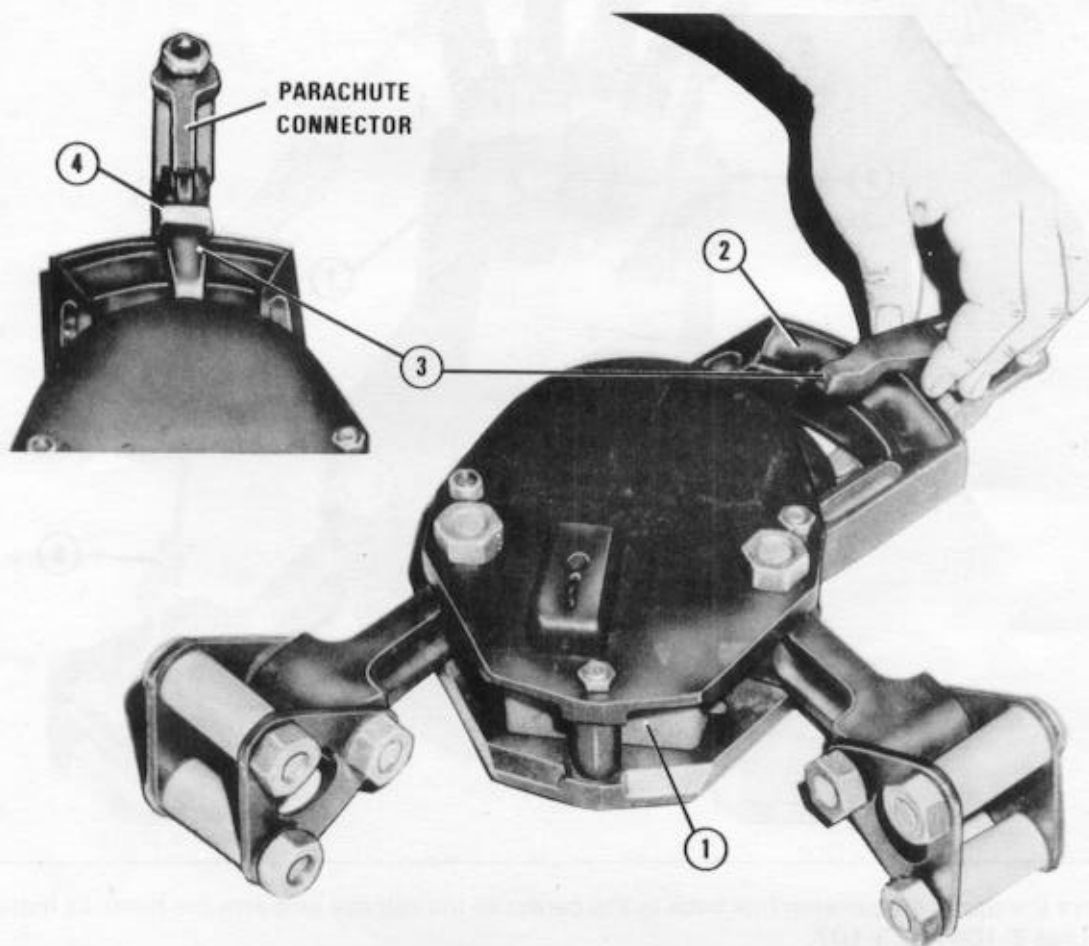
**Note:** If the timer fails to fall after the allotted time, remove the face plate and check the four screws holding the arming wire guide block to the side plate for burrs. If the screw heads are burred, remove the burrs by filing or replace the screws. Retest the timer.

Figure 3-108. Timer tested (continued)

**b. Preparing, Attaching, and Safetying Release.** Prepare, attach, and safety the M-1 cargo parachute release as shown in Figures 3-109 through 3-111.

**Note:** When using the M-1 cargo parachute release on the 28-foot and 32-foot platforms,

use a 25-foot arming wire lanyard. Make the lanyard according to TM 10-1670-240-20/TO 13C7-49-11. This should be done because the current arming wire is too short to reach the D-bags for attachment.



- ① Use an M-1 release with a tested timer and make sure that the delay release timer is down in the housing of the release.
  - ② Move the upper suspension link to the right or the left as far as it will go.
  - ③ Open the arms of a parachute connector, and fit the arms on the suspension link with the tips together in the groove of the retaining clamp.
- Note:** One parachute connector will be fitted to the upper suspension link for each cargo parachute used on the load.
- ④ Fit a retainer band around the parachute connector to aid in assembly.

Figure 3-109. Parachute connector fitted to upper suspension link of M-1 release

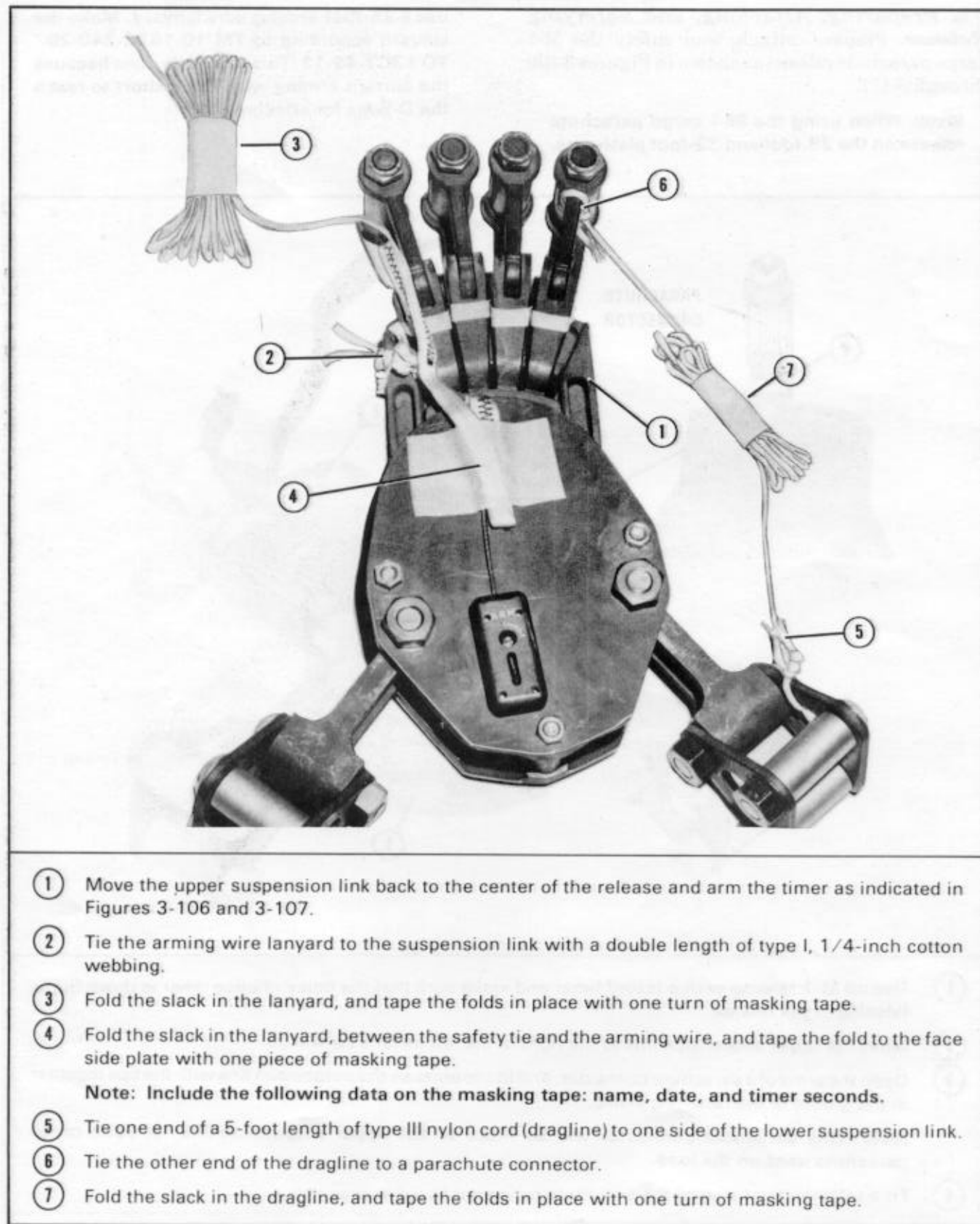
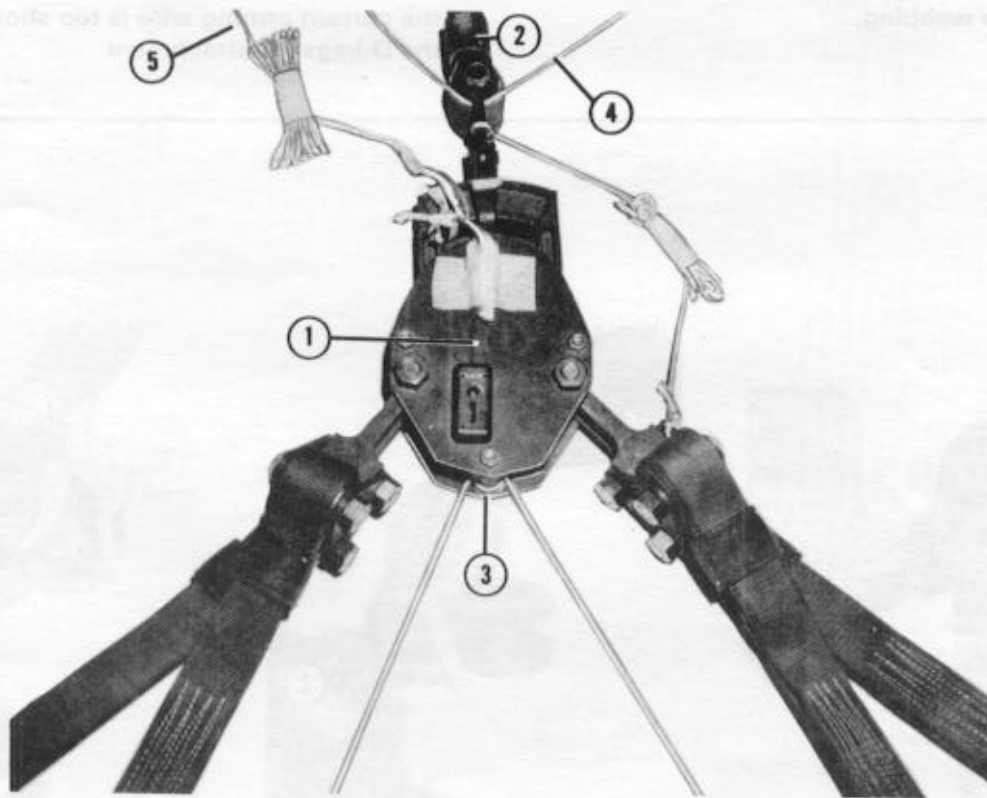


Figure 3-110. M-1 release prepared



**CAUTION**

Place the release on the load with the parachute connectors toward the rear of the platform and with the guide block up. Bolt the suspension slings to the lower suspension links so that they will not change position when the load is suspended.



- ① Put the release on the load as instructed in the specific rigging manual for the load.
- ② Bolt a 3-foot (3-loop) sling to the riser clevis of one G-11A or G-11B cargo parachute and to the parachute connector fitted to the release.  
**Note:** Bolt the riser extensions of two or three G-12D, two to four G-11A, or two or three G-11B cargo parachutes to the parachute connectors already fitted to the release.
- ③ Run a length of type III nylon cord around the lower spacer, and tie the ends of the cord to points on the front of the load or platform.
- ④ Run a length of type III nylon cord through the connectors, and tie the ends of the cord to points on the rear of the load or platform.
- ⑤ Tie the lanyard to the carrying handle of a parachute with three alternating half hitches and an overhand knot in the running end.

*Figure 3-111. M-1 release attached and safetied to load*

### 3-27. M-2 Cargo Parachute Release

Prepare, attach, and safety the M-2 cargo parachute release as follows.

**a. Preparing Release.** Test the timer and prepare an M-2 cargo parachute release the same as for the M-1 release.

**Note:** Three to eight parachute connectors may be fitted to an M-2 release. The M-2 release needs a dragline made from 1/2-inch tubular nylon webbing.

**b. Attaching and Safetying Release.** Attach and safety the M-2 cargo parachute release to the load as shown in Figure 3-112.

**Note:** When using the M-2 cargo parachute release on the 28-foot and 32-foot platforms, use a 25-foot arming wire lanyard. Make the lanyard according to TM 10-1670-240-20/TO 13C7-49-11. This should be done because the current arming wire is too short to reach the D-bags for attachment.

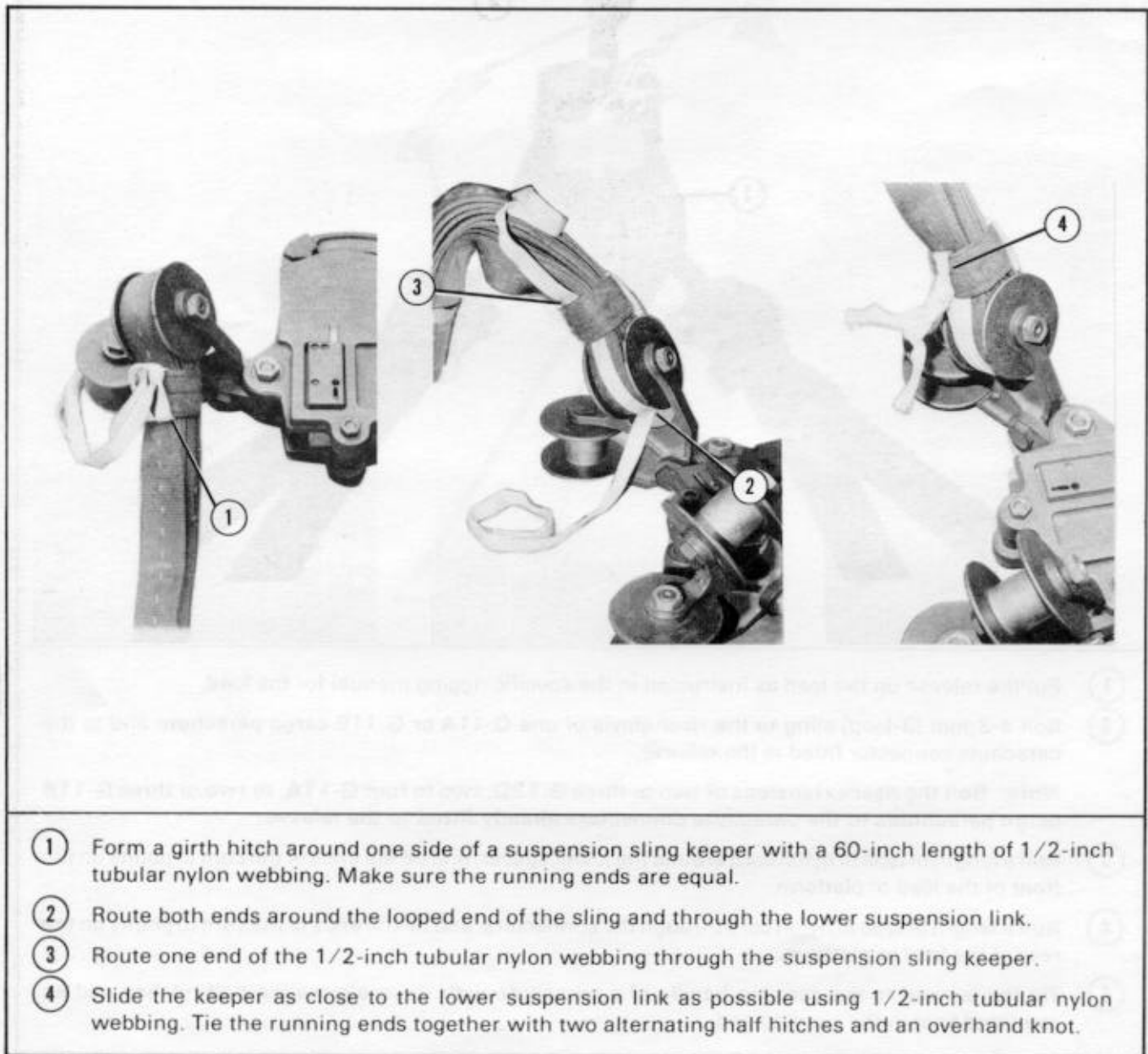
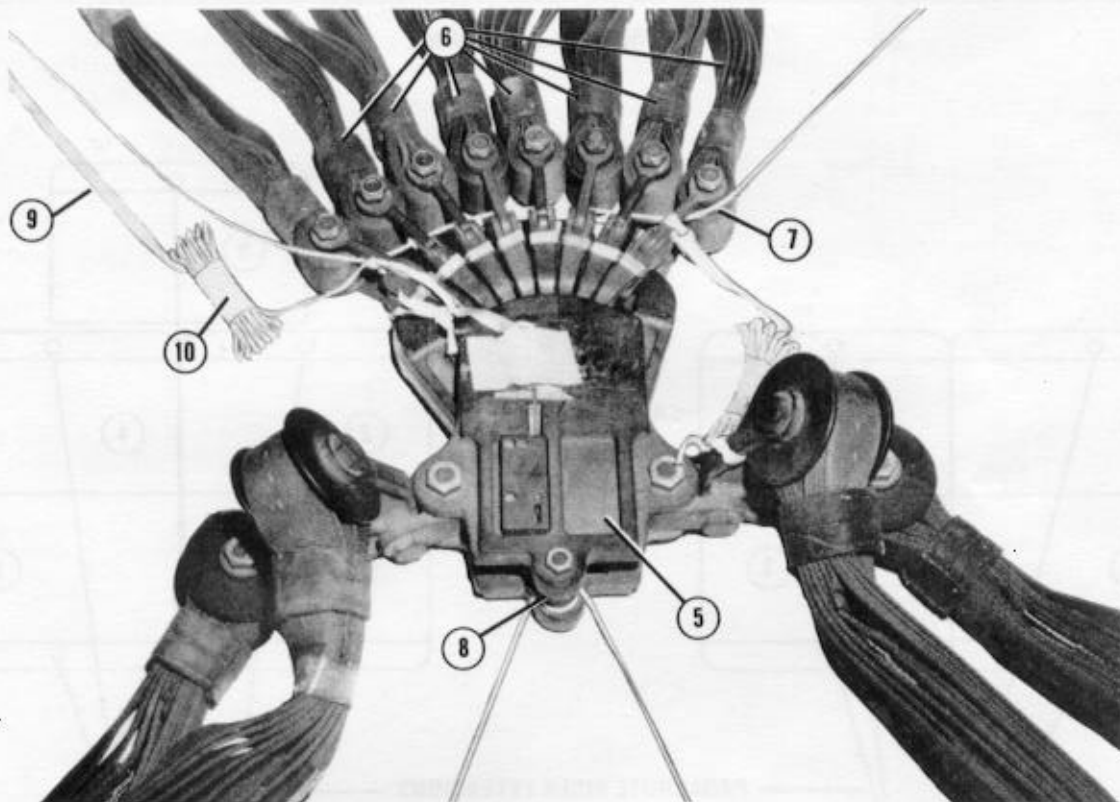


Figure 3-112. M-2 release prepared, attached, and safetied to load



**CAUTION**

Place the release on the load with the parachute connectors toward the rear of the platform and with the guide block up. Bolt the suspension slings to the lower suspension links so that they will not change position when the load is suspended.



- ⑤ Put the release on the load as instructed in the specific rigging manual for the load.
- ⑥ Bolt the riser extensions of three to eight G-11A (three or eight G-11B or eight G-11C) cargo parachutes to the parachute connectors already fitted to the release.
- ⑦ Run a length of type III nylon cord through the connectors, and tie the ends of the cord to points on the rear of the load or platform.
- ⑧ Run a length of type III nylon cord around the lower spacer, and tie the ends of the cord to points on the front of the load or platform.
- ⑨ Tie the lanyard to the carrying handle of a parachute with three alternating half hitches and an overhand knot in the running end.
- ⑩ Fold any excess in the lanyard, and tape the folds in place with one turn of masking tape.

**Note:** Include the following data on the masking tape: name, date, and timer seconds.

*Figure 3-112. M-2 release prepared, attached, and safetied to load (continued)*

### 3-28. Parachute Risers Attached to the Parachute Release

Lay the parachute release on top of the load with the bolt end of the parachute connectors toward the cargo parachutes. Bolt the parachute riser extensions to the parachute connectors of the M-1 or M-2 parachute releases as shown in Figures 3-113 and 3-114.

**Note:** Bolt the parachute riser extensions to the parachute connectors from riggers right to left. They must be in the numerical order given for four-, five-, six-, and eight-parachute loads. For seven-parachute loads, delete the eighth riser extension.

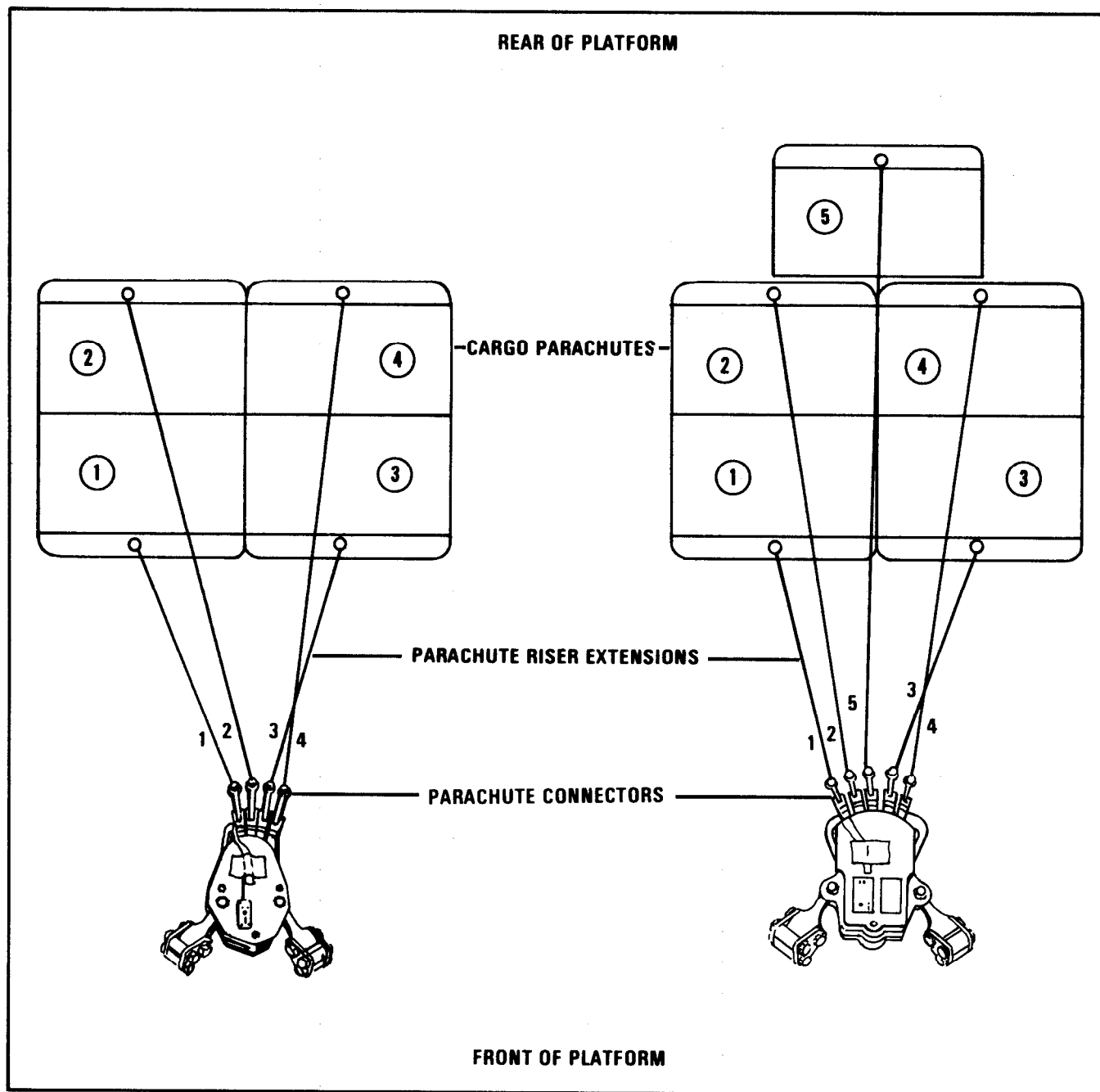


Figure 3-113. Four and five parachute riser extensions attached to the parachute connector links

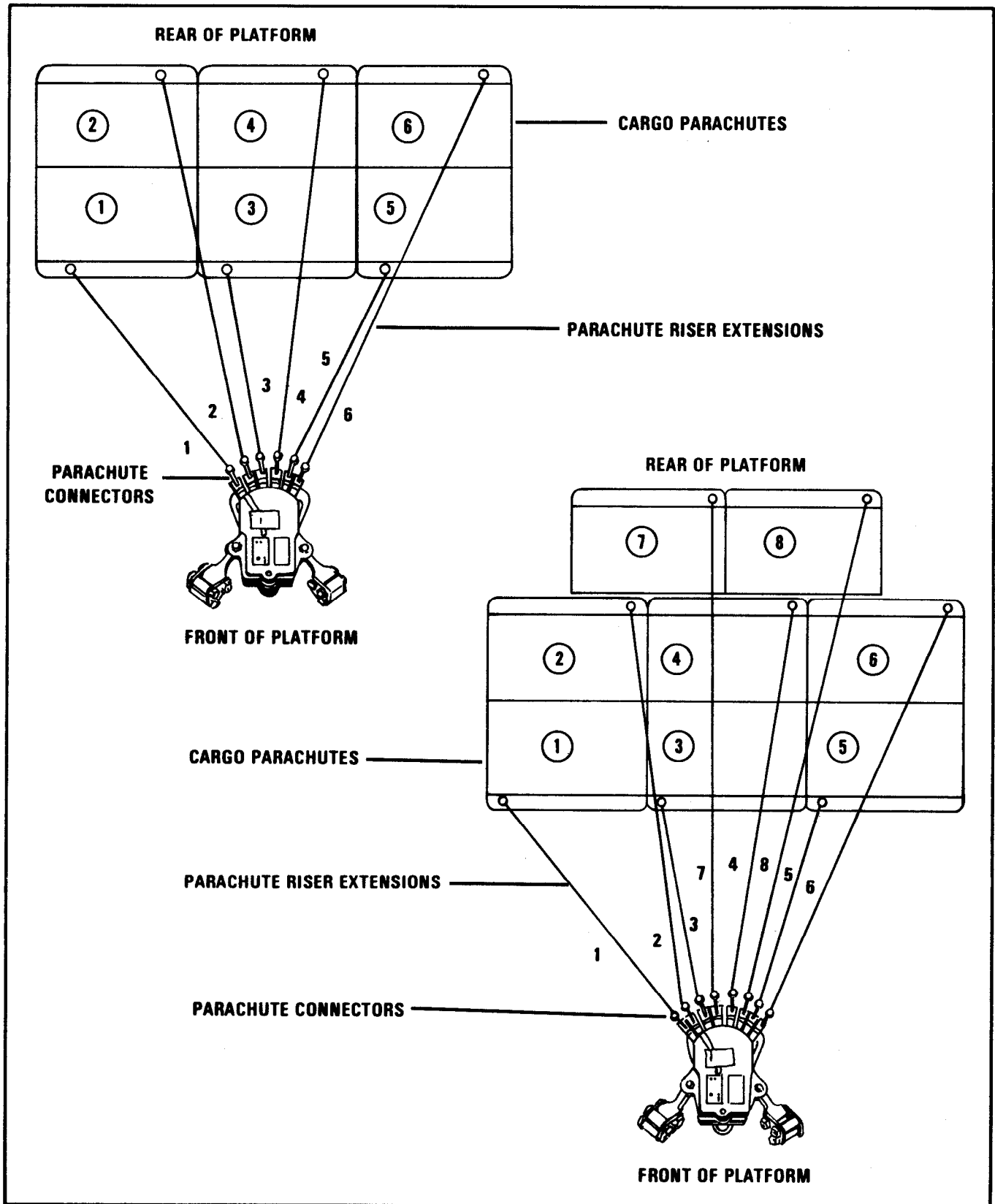


Figure 3-114. Six and eight parachute riser extensions attached to the parachute connector links

### 3-29. The 5,000-Pound-Capacity Cargo Parachute Release

Prepare, attach, and safety the 5,000-pound-capacity cargo parachute release as follows.

#### CAUTION

Be sure that the burnt power residue has been properly removed from around the spinner and housing group.

**a. Preparing Release.** Prepare the 5,000-pound-capacity release as follows.

**(1) Preparing the Release Link Assembly.** Bolt a 3-foot (3-loop) sling to the release link assembly, and fit the assembly to the release hook as follows:

(a) Pull the cocking lever out to the fullest extent.

(b) Rotate the spinner downward.

(c) Release the cocking lever slowly, and allow the hook to disengage the locking lug and rotate downward.

(d) Position the release link assembly in the appropriate weight position notch of the release hook.

**Note:** The hook has two weight position notches (1,300 to 2,200 pounds and 2,201 to 5,000 pounds) to accommodate the release link assembly. The appropriate position is determined by dividing the suspended weight of the load (rigged weight less weight of the parachutes) by the number of releases used.

**EXAMPLE:** The rigged weight of a load is 19,500 pounds. The load is rigged with five G-11A cargo parachutes weighing 1,250 pounds. Therefore, the suspended weight of the load is 18,250 pounds. Divide the suspended weight by five (number of releases used) and the result is 3,650 pounds. This indicates that, for this example, the release link assembly is positioned in the 2,201- to 5,000-pound notch.

(e) Rotate the hook upward to the closed position; pull the cocking lever as far as it will go.

(f) Rotate the spinner to the closed position, and close the cocking lever.

(g) Check to determine that the hook is engaged on the lug of the catch.

**(2) Preparing the Delay Assembly.** Prepare the delay assembly as follows:

(a) Unscrew the sear attachment bolt, and remove the sear spacer.

(b) Unscrew the entire delay assembly from the release housing.

(c) Unscrew the firing mechanism from the adapter.

(d) Remove the spent cartridge from the adapter.

(e) Assemble the firing mechanism housing by inserting the firing pin spring and firing pin. Using a suitable aid, press in on the firing pin to compress the firing pin spring and engage the firing pin and sear.

#### CAUTION

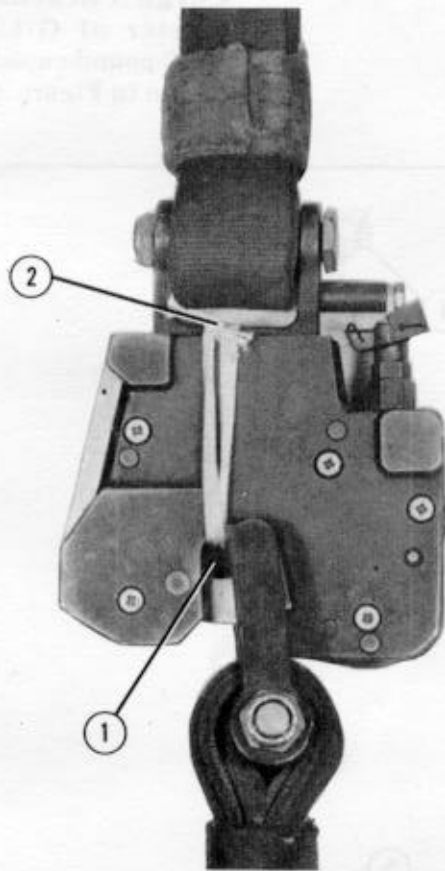
Care must be used or the firing pin spring will eject the firing pin from the firing mechanism housing.

(f) Insert the safety pin in the firing mechanism housing.

(g) Replace the spent cartridge with a serviceable cartridge.

(h) Assemble the adapter and the firing mechanism housing and replace the delay assembly in the release housing by reversing the procedures in (a) and (b) above.

**(3) Safetying Against Premature Firing.** Safety the release against a premature firing of the delay cartridge as shown in Figure 3-115.



- ① Run one length of type I, 1/4-inch cotton webbing two times around the release housing. The webbing goes over the yoke assembly and through the unused notch in the release housing.
- ② Pull the webbing as tight as possible, and tie the ends of the webbing together with a surgeon's knot and a locking knot.

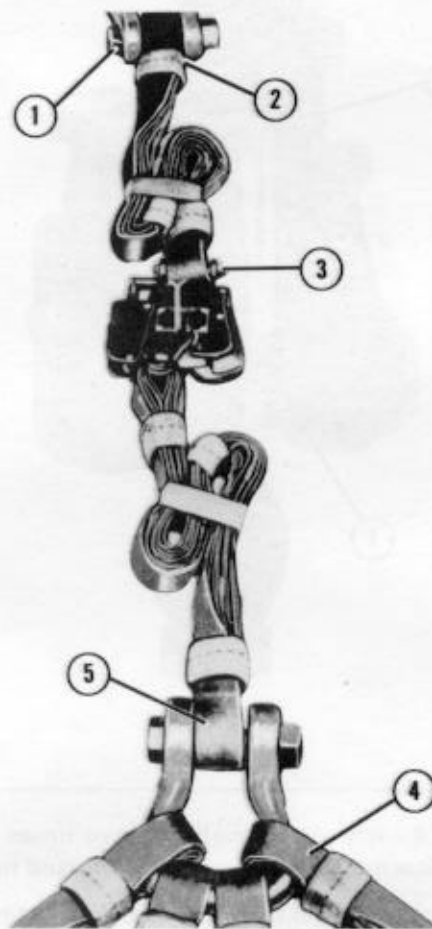
**Note:** Each time you use a 5,000-pound-capacity release, you must use a new length of type I, 1/4-inch cotton webbing to safety the release against a premature firing.

*Figure 3-115. Release safetied against premature firing*



**b. Attaching Release.** Attach the release to the load and to the cargo parachutes as follows.

**(1) With One G-11A or a Cluster of G-12D Cargo Parachutes.** Attach one G-11A or a cluster of G-12D cargo parachutes to a 5,000-pound-capacity cargo parachute release as shown in Figure 3-116.

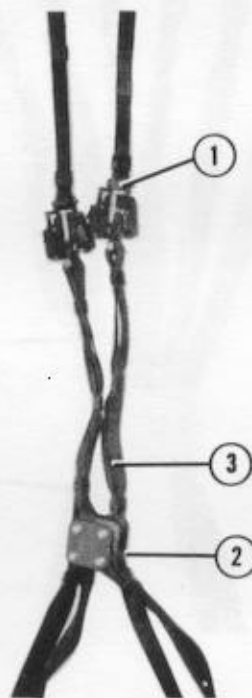


- ① Put the riser extensions of a cluster of G-12D cargo parachutes on the arms of a large suspension clevis.
- ② Put one end of a 3-foot (3-loop) sling on the clevis in step 1 above or to the clevis grouping the risers of a G-11A cargo parachute.
- ③ Bolt the free end of the 3-foot sling to the yoke assembly of a 5,000-pound-capacity release.
- ④ Put the suspension slings on the arms of a large suspension clevis.
- ⑤ Put the end of the 3-foot sling bolted to the release link of the release assembly on the bolt of the clevis in step 4 above.

*Figure 3-116. A 5,000-pound-capacity release attached to a load and one G-11A or a cluster of G-12D cargo parachutes*

(2) **With Two to Six G-11A Cargo Parachutes.** Bolt the riser extensions of the G-11A cargo parachutes to the yoke assemblies, the suspension slings to the bottom spools of an 8-spool load coupler, and the release assemblies to the top spools of the load coupler as shown in Figures 3-117 and 3-118.

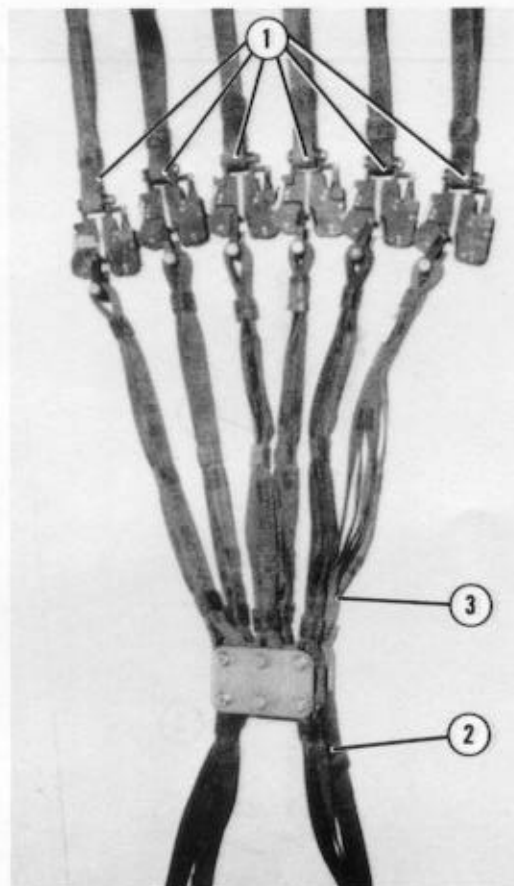
(3) **Load Coupler.** Use an 8-spool load coupler for rigging loads having two to four G-11A cargo parachutes and a 12-spool load coupler for loads having five or six cargo parachutes. Attach a load coupler to the releases and the suspension slings as shown in Figures 3-117 and 3-118.



- ① Bolt the riser extensions of two to six G-11A cargo parachutes to the yoke assemblies of the same number of 5,000-pound-capacity releases.
- ② Bolt the load suspension slings to the bottom spools of an 8-spool load coupler.
- ③ Bolt the free ends of the slings bolted to the release links of the release assemblies to the top spools of the load coupler.

**Note:** If two parachutes are used, bolt the 3-foot slings to diagonally opposite spools.

*Figure 3-117. Suspension slings and releases bolted to an 8-spool load coupler*

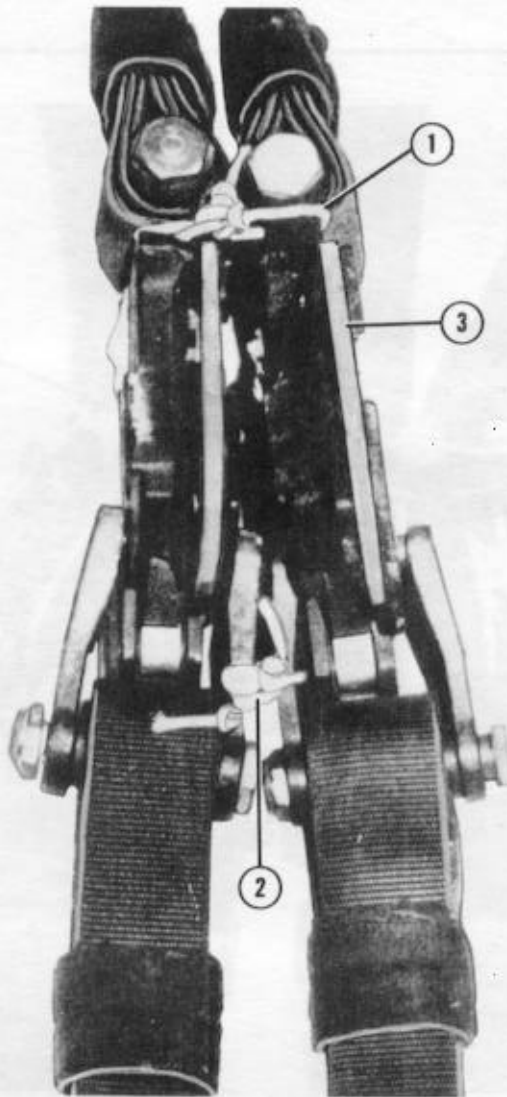


- ① Bolt the riser extensions of five or six G-11A cargo parachutes to the yoke assemblies of the same number of 5,000-pound-capacity releases.
- ② Bolt the suspension slings to the bottom spools of a 12-spool load coupler.  
**Note:** On loads with double slings to each suspension point, use a large suspension clevis to attach the slings to the load coupler. The 12-spool load coupler will be used with a three-point or six-point suspension system.
- ③ Bolt the free ends of the slings bolted to the release links of the release assemblies to the top spools of the load coupler.

*Figure 3-118. Suspension slings and releases bolted to a 12-spool load coupler*

**c. Safetying Releases.**

(1) Tie two 5,000-pound-capacity cargo parachute releases together with type III nylon cord as shown in Figure 3-119.



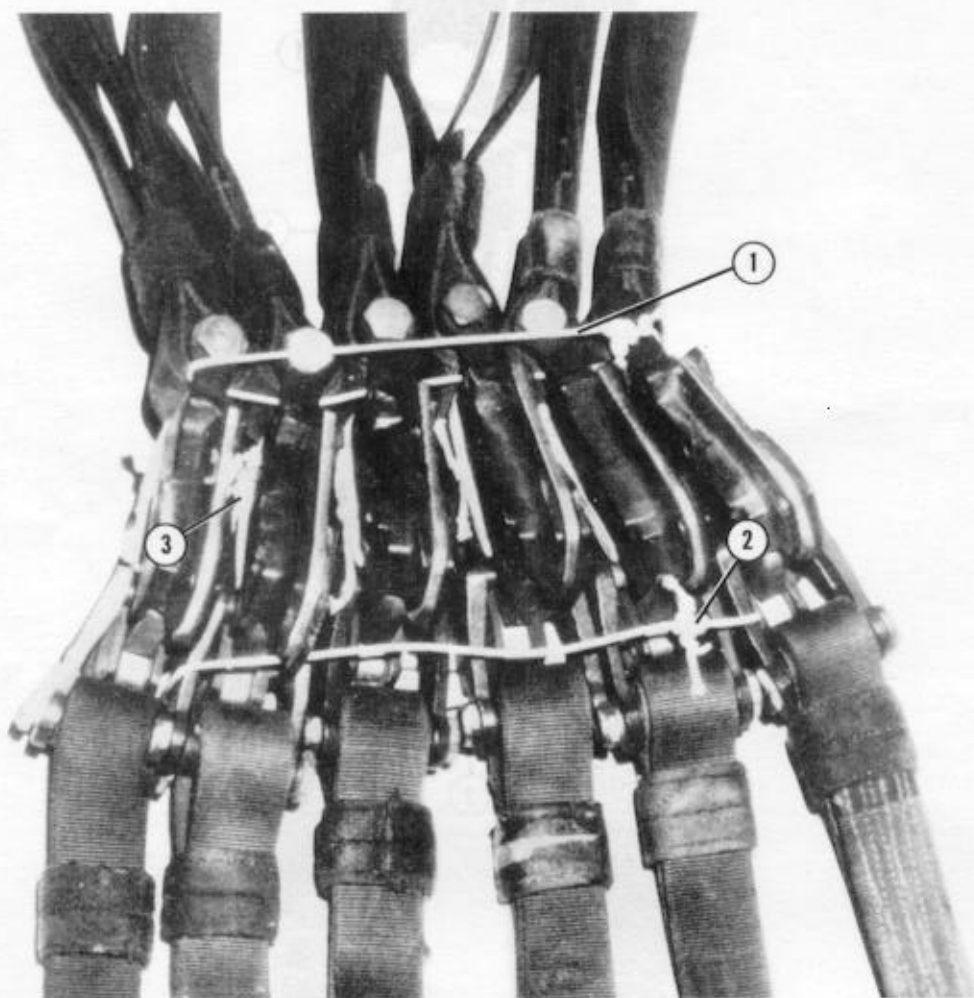
- ① Tie the releases together with a length of type III nylon cord. Run the tie through the yokes on the cocking lever side. Tie the ends of the cord together with a surgeon's knot and a locking knot. Tie an overhand knot in each running end.
- ② Tie the releases together with a second length of type III nylon cord. Run the tie through the release link assemblies. Tie the ends of the cord together with a surgeon's knot and a locking knot. Tie an overhand knot in each running end.
- ③ Prior to loading the aircraft, remove the safety pin from the firing mechanism housing and safety the cocking lever to the release housing with the pin.

*Figure 3-119. Two releases tied together*

(2) Tie three to six releases together as shown in Figure 3-120.

(3) Tie the 5,000-pound-capacity cargo parachute releases to a carrying handle of a cargo parachute with two lengths of type I, 1/4-inch cotton webbing.

**Note:** If it is impossible to tie the releases to a parachute in this manner, correct instructions for the safetying of the releases will be included in the specific rigging manual.



- ① Tie the releases together with a length of type III nylon cord. Run the tie through the yokes on the cocking lever side. Tie the ends of the cord together with a surgeon's knot and a locking knot. Tie an overhand knot in each running end.
- ② Tie the releases together with a second length of type III nylon cord. Run the tie through the releases link assemblies. Tie the ends of the cord together with a surgeon's knot and a locking knot. Tie an overhand knot in each running end.
- ③ Prior to loading the aircraft, remove the safety pin from the firing mechanism housing of each release and safety the cocking lever to the release housing with the pin.

*Figure 3-120. Six releases tied together*